

§ 178.337-15

49 CFR Ch. I (10-1-13 Edition)

§ 178.337-15 Pumps and compressors.

(a) Liquid pumps or gas compressors, if used, must be of suitable design, adequately protected against breakage by collision, and kept in good condition. They may be driven by motor vehicle power take-off or other mechanical, electrical, or hydraulic means. Unless they are of the centrifugal type, they shall be equipped with suitable pressure actuated by-pass valves permitting flow from discharge to suction or to the cargo tank.

(b) A liquid chlorine pump may not be installed on a cargo tank intended for the transportation of chlorine.

[Amdt. 178-89, 54 FR 25018, June 12, 1989, as amended by Amdt. 178-118, 61 FR 51340, Oct. 1, 1996]

§ 178.337-16 Testing.

(a) *Inspection and tests.* Inspection of materials of construction of the cargo tank and its appurtenances and original test and inspection of the finished cargo tank and its appurtenances must be as required by Section VIII of the ASME Code (IBR, see § 171.7 of this subchapter) and as further required by this specification, except that for cargo tanks constructed in accordance with part UHT in Section VIII of the ASME Code the original test pressure must be at least twice the cargo tank design pressure.

(b) *Weld testing and inspection.* (1) Each cargo tank constructed in accordance with part UHT in Section VIII of the ASME Code must be subjected, after postweld heat treatment and hydrostatic tests, to a wet fluorescent magnetic particle inspection to be made on all welds in or on the cargo tank shell and heads both inside and out. The method of inspection must conform to appendix 6 in Section VIII of the ASME Code except that permanent magnets shall not be used.

(2) On cargo tanks of over 3,500 gallons water capacity other than those described in paragraph (b)(1) of this section unless fully radiographed, a test must be made of all welds in or on the shell and heads both inside and outside by either the wet fluorescent magnetic particle method conforming to appendix U in Section VIII of the ASME Code, liquid dye penetrant

method, or ultrasonic testing in accordance with appendix 12 in Section VIII of the ASME Code. Permanent magnets must not be used to perform the magnetic particle inspection.

(c) All defects found shall be repaired, the cargo tanks shall then again be postweld heat treated, if such heat treatment was previously performed, and the repaired areas shall again be tested.

[Order 59-B, 30 FR 582, Jan. 16, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 178-7, 34 FR 18250, Nov. 14, 1969; Amdt. 178-99, 58 FR 51534, Oct. 1, 1993; Amdt. 178-118, 61 FR 51340, Oct. 1, 1996; 68 FR 75753, Dec. 31, 2003]

§ 178.337-17 Marking.

(a) *General.* Each cargo tank certified after October 1, 2004 must have a corrosion-resistant metal name plate (ASME Plate) and specification plate permanently attached to the cargo tank by brazing, welding, or other suitable means on the left side near the front, in a place accessible for inspection. If the specification plate is attached directly to the cargo tank wall by welding, it must be welded to the tank before the cargo tank is postweld heat treated.

(1) The plates must be legibly marked by stamping, embossing, or other means of forming letters into the metal of the plate, with the information required in paragraphs (b) and (c) of this section, in addition to that required by the ASME Code, in characters at least $\frac{3}{16}$ inch high (parenthetical abbreviations may be used). All plates must be maintained in a legible condition.

(2) Each insulated cargo tank must have additional plates, as described, attached to the jacket in the location specified unless the specification plate is attached to the chassis and has the information required in paragraphs (b) and (c) of this section.

(3) The information required for both the name and specification plate may be displayed on a single plate. If the information required by this section is displayed on a plate required by the ASME, the information need not be repeated on the name and specification plates.

(4) The specification plate may be attached to the cargo tank motor vehicle chassis rail by brazing, welding, or other suitable means on the left side near the front head, in a place accessible for inspection. If the specification plate is attached to the chassis rail, then the cargo tank serial number assigned by the cargo tank manufacturer must be included on the plate.

(b) *Name plate.* The following information must be marked on the name plate in accordance with this section:

(1) DOT-specification number MC 331 (DOT MC 331).

(2) Original test date (Orig. Test Date).

(3) MAWP in psig.

(4) Cargo tank design temperature (Design Temp. Range) _____ °F to _____ °F.

(5) Nominal capacity (Water Cap.), in pounds.

(6) Maximum design density of lading (Max. Lading density), in pounds per gallon.

(7) Material specification number—shell (Shell matl. yyy***), where “yyy” is replaced by the alloy designation and “***” is replaced by the alloy type.

(8) Material specification number—heads (Head matl. yyy***), where “yyy” is replaced by the alloy designation and “***” by the alloy type.

(9) Minimum Thickness—shell (Min. Shell-thick), in inches. When minimum shell thicknesses are not the same for different areas, show (top____, side____, bottom____, in inches).

(10) Minimum thickness—heads (Min. heads thick.), in inches.

(11) Manufactured thickness—shell (Mfd. Shell thick.), top____, side____, bottom____, in inches. (Required when additional thickness is provided for corrosion allowance.)

(12) Manufactured thickness—heads (Mfd. Heads thick.), in inches. (Required when additional thickness is provided for corrosion allowance.)

(13) Exposed surface area, in square feet.

NOTE TO PARAGRAPH (b): When the shell and head materials are the same thickness, they may be combined, (Shell&head matl. yyy***).

(c) *Specification plate.* The following information must be marked on the

specification plate in accordance with this section:

(1) Cargo tank motor vehicle manufacturer (CTMV mfr.).

(2) Cargo tank motor vehicle certification date (CTMV cert. date).

(3) Cargo tank manufacturer (CT mfr.).

(4) Cargo tank date of manufacture (CT date of mfr.), month and year.

(5) Maximum weight of lading (Max. Payload), in pounds

(6) Lining materials (Lining), if applicable.

(7) Heating system design pressure (Heating sys. press.), in psig, if applicable.

(8) Heating system design temperature (Heating sys. temp.), in °F, if applicable.

(9) Cargo tank serial number, assigned by cargo tank manufacturer (CT serial), if applicable.

NOTE 1 TO PARAGRAPH (c): See §173.315(a) of this chapter regarding water capacity.

NOTE 2 TO PARAGRAPH (c): When the shell and head materials are the same thickness, they may be combined (Shell & head matl. yyy***).

(d) The design weight of lading used in determining the loading in §§178.337-3(b), 178.337-10(b) and (c), and 178.337-13(a) and (b), must be shown as the maximum weight of lading marking required by paragraph (c) of this section.

[68 FR 19280, Apr. 18, 2003; 68 FR 52370, Sept. 3, 2003, as amended at 68 FR 57633, Oct. 6, 2003]

§ 178.337-18 Certification.

(a) At or before the time of delivery, the cargo tank motor vehicle manufacturer must supply and the owner must obtain, a cargo tank motor vehicle manufacturer's data report as required by Section VIII of the ASME Code (IBR, see §171.7 of this subchapter), and a certificate stating that the completed cargo tank motor vehicle conforms in all respects to Specification MC 331 and the ASME Code. The registration numbers of the manufacturer, the Design Certifying Engineer, and the Registered Inspector, as appropriate, must appear on the certificates (see subpart F, part 107 in subchapter A of this chapter).